Message

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Sent: 5/25/2018 7:05:23 PM
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Subject: Draft/Prelim F&T Results
Attachments: F&T-summary.pdf

Hello folks,

Attached are some preliminary slides summarizing the LNAPL sourced dissolved-phase fate and transport (F&T) simulations. There are a lot of observations that might be drawn by these evaluations. While there are many details, I think the summary observation is that this system's behavior is unusual and that an equivalent porous medium (EPM) approach is not likely going to be representative. For the kinds of distal detections we've observed, either the LNAPL source has to be much further afield than anyone has considered &/or, the mechanisms of F&T are very complex and not represented by an equivalent porous medium approach. That implies that no matter what tuning the Navy may do with its groundwater model, that model will not serve as a confident or conservative estimator of potential contaminant impacts. While the modeling I've done is semi-analytic (relatively simple), many of the critical F&T assumptions will apply to MODFLOW/MT3D transport evaluations that the Navy will do.

As mentioned, there are a myriad of other interesting observations. For instance, why have PAHs that are typically not transported to large distances found in many wells at large distances and at an equal order of magnitude to various BTEX compounds? Why do the analyte detections correlate best with RMW03 and not RMW02 nearer the "core" of the plume, such as we know it. If LNAPL has been transported to large distances away from the tank farm, why is there not a stronger source signature; are we lacking adequate characterization?

Anyway, too many more observations to list here. But a second key implication is that if groundwater F&T in atypical and not likely described by an EPM system, then what does that say about the likely value of GSI's LNAPL box model that has no transport parameters whatsoever, merely geometric residualization? Just food for thought before our call next week.

Wishing everyone a great holiday weekend! Best regards.

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